UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,174	03/24/2004	Yoshihiro Nakata	011293A	4205

23850 7590 06/04/2007

ARMSTRONG, KRATZ, QUINTOS, HANSON & BROOKS, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER
VO, HAI

ART UNIT	PAPER NUMBER
1771	

MAIL DATE	DELIVERY MODE
06/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/807,174	NAKATA ET AL.	
	Examiner	Art Unit	
	Hai Vo	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 April 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/18/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The 112 claim rejections have been withdrawn in view of the present amendments.
2. The art rejections over Rutherford et al (US 6,318,124) in view of JP 2001-127152 have been overcome in view of the present amendment. Rutherford is concerned with a non-porous coating material. Therefore, there is no motivation to add a dissipating agent for forming pores into the Rutherford coating composition.
3. The art rejections over JP 2001-127152 in view of Rutherford et al (US 6,318,124) are maintained.
4. It is suggested that the phrase "as well as" is preferably removed from claim 1 to be in compliance with US Patent Practice.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear whether alcohol is used as a solvent for the preparation of a siloxane resin. The scope becomes unclear since it is not determinable which solvent is used within the scope of the claim. Clarification is requested.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakata et al (US 6,613,834) or Nakata et al (US 6,958,525) or Nakata et al (US 2006/022357).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

The US Patent No. 6,958,525 and US Patent Application Publication No. 2006/022357 are divisional applications of US Patent No. 6,613,834. Nakata '834 discloses each and every limitation of the claimed subject matter (column 3, lines 20-25; column 4, lines 1-10, 59-61; and column 7, lines 20-25). Accordingly, Nakata anticipates the claimed subject matter.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 1-3, and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-127152 in view of Rutherford et al (US 6,318,124). JP'152 teaches a composition comprising a mixture of polycarboxilane, siloxane resin and solvent (claim 1). The composition contains 5 to 80 parts by weight of polycarbosilane within the claimed range [0029]. JP'152 teaches the polycarbosilane is decomposed for forming pores [0019] and [0020]. JP'152 does not specifically use the siloxane resin having the number ratio of carbon to silicon atoms in the main chain as set out in the claims. Rutherford teaches a coating composition comprising a compound that is selected from a group consisting of a low organic siloxane, a high organic siloxane, a hydridiorganoorganosiloxane, a poly(arylene ether), a fluorinated poly(arylene) ether, a polyimide, a polycarbosilane and combinations thereof (column 10, lines 30-36). Rutherford teaches the polycarbosilane having a structure represented by formula $-[Si(R1)(R2)H]_x-$ or $-[Si(R8)(R9)(R10)]_w-$ (column 12, line 67 to column 13, lines 1-10). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the Rutherford polycarbosilane having a structure $-[Si(R1)(R2)H]_x-$ or $-[Si(R8)(R9)(R10)]_w-$ because the formulas are equivalent to $-[Si(R1)(R2)(CH2)]_m-$ and expectedly chemically combinable with the siloxane resin to provide an insulation film which is low in dielectric constant, superior in heat resistance and moisture resistance.

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-127152 in view of Rutherford et al (US 6,318,124) as applied to claim 1 above, further in view of JP 64-009231. JP'152 does not specifically disclose how the

siloxane resin is formed. JP'231, however, teaches siloxane polymer being formed from heat treatment of a mixture containing tetralkoxysilane and trialkoxysilane and alcohol is released from the mixture to form a siloxane polymer. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the method as taught by JP'231 to produce a siloxane polymer because such is known in the art and JP'231 provides necessary details to practice the invention of JP'152.

JP'231 does not specifically disclose the molar ratio of tetralkoxysilane and trialkoxysilane as well as the amount of alcohol removed from the mixture. However, such a variable would have been recognized by one skilled in the art as dependent upon the intended use of the product. As such, in the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the molar ratio in the range instantly claimed motivated by the desire to form a siloxane polymer within a short time, thereby giving an insulation film with improved heat resistance, adhesion and cracking resistance since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably

distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of U.S. Patent No. 6,958,525. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of '525 patent fully encompass the claimed subject matter.

14. Claims 1-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-21 of U.S. Patent No. 6,727,515. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of '515 patent fully encompass the claimed subject matter.

15. Claims 1-7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 7, 18 and 19 of copending Application No. 11/205,128. Although the conflicting claims are not identical, they

are not patentably distinct from each other because the claims of '128 application fully encompass the claimed subject matter.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

16. The art rejections over JP '152 in view of Rutherford have been maintained for the following reasons. Applicants argue that nowhere does JP'152 teach or disclose a dissipating agent. The examiner respectfully disagrees. JP'152 teaches the polycarbosilane is decomposed for forming pores [0019] and [0020]. Likewise, polycarbosilane acts like a dissipating agent.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from

the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on Monday through Friday, from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Hai Vo/
Primary Examiner
Art Unit 1771
Tel: (571)-272-1485
Fax: (571)-273-8300